



4/25/86

"Bioavailability & toxicity of heavy metals in mine tailings
leachate to aquatic invertebrates"

40108445



SUPERFUND RECORDS

12/14/81

St John Minerals Agreement w/ MNR

on liability + Rm Action for lead mine tailings at Desloge, mo

deposited 29 years - 1929 1958, 500 acres tailings - 2-4% lead, piled to 100'

1971 major washout (due to blocked drainage + neglect maintenance)

~ 52,000 yds³ → Big River, + minor erosion up to present

Student's undertaking to assess env. damage + explore alternatives

Sec 77, EPA/SWAN survey, Negotiate (physician's assistant) deposited → stream bed

Jan 80, Univ of Mo study
July 18, 1980 - no Dept cons warning about bottom feeding fish

CAC reported case to DOT (St of Missouri) Dec 1978

To date, no other no. taken on this report

'80 EPA/NCE • Sec 311 Court + Sec 7003 RARA ~~Recommendation~~

as well as ERIS findings

Dec 1980 MNR began negotiating w/ St of Missouri for voluntary

cleanup due to env + mining waste problem, EPA suspended

rate actions, dropped from ERIS. Negotiation about

w/ St Aug 81

Stumbling blocks to negotiation

- 1 reconciliation of St Joe past + future - liability
- 2 assigning responsibility for future site maintenance

Negotiated agreement 'Covenant Not to Sue - St Joe Minerals, St. Francois Enr Corp (landfill) MONR, State Clean Air Commissioner, State Cons Comm, + State Atty Gen 9/4/81

Agreement

Provisions

St Joe Min + St Francois County = released from responsibility for watershed damage (past + future)

St Francois contracts all work, future maintenance
 St Joe pay for proposed work, fill material, (some), provide advisory tech assistance w/ review of construction work. No responsibility for work is assumed by St Joe

Remedial Action Tasks.

- 1 fill in / repair erosion gaps
- 2 reconstruction of berm
- 3 alteration of failed drainage structures - to prevent future blockage problems
- 4 seeding + fertilizer to 20 acre "demonstration" plot
- 3 Construction of all haulage roads

• Derivation of Work is consistent w/ recommendations made by G of MO, for MNR - "middle ground" respon - major structural failures will be remedied

- Proposed work doesn't address existing/potential env. hazard:
 - Contamination of 104 River beneath Zone 4 Fish Ponds
 - EPA/MONR studies show degraded for 10 miles downstream, bottom-feeding fish have elevated lead levels in blood
 - Remediation/dredging if not included in Agreement. 'unreasonable' to expect ST Joe to clean up (had recognized responsibility + responsibility) & dredging destroys habitat. Consistent with natural processes more effective in time
 - But not + Superior support dredging (under SPW 8 but mining water now excluded from CERCLA Review. MONR approach appears reasonable

- Leachate Contamination (heavy metals) from San Landfill
 - 4 of 120 - could lead to contamination of 90 ft² of ^{under}
 - Property - (acidic conditions: Pb + Cu soluble)
 - immediate monitoring program recommended & MONR in Mar '80 did some leachate monitoring
 - Results: Pb, Cu not elevated above background
 - Representative sample? EPA concurs that leaching question NOT answered to date. (Reviews)
 - Suggest study to determine mobilization, alternately, install monitoring wells at landfills
 - Does warrant future attention of MONR (periodic sampling) access granted,

3 Site Stabilization, Revegetation, + Hazards of Airborne Lead Dust - 20 acres - < 5% of site

Potential for windblown dust

Lead toxicity due to conc of soluble lead in soft tissues of body. Insolubility of lead sulfide (galena) - reported low toxicity

Reviewers concluded windblown falling dust hazard not significant. Very favorable to states ambient air quality monitoring stations near site - to confirm their conclusions

Summary :

Reviewers reasonable agreement for which no party is clearly responsible. Stabilizer site but doesn't address -

- 1. testings in sediment
- 2. potential leachate contamination from landfill
- 3. lack of veg cov. to stabilize site grounds
- 4. erosion control on a contouring lead
- 5. long-term sampling / env. evaluation program

↑ Pb in fish sufficient to support Fed action under 7003 RCRA. ∴ due to this + 5 above-cited reasons, EPA should continue to monitor progress of the state. Reviewer recommended letter to MDRR expressing EPA's concerns + recommended action